

AWARDS 2007 PRINTERS



CANON PIXMA MP510



Multifunction peripherals (MFPs) combine a printer, scanner and sometimes a fax machine within one convenient box. They've always been a great way to save space and power sockets compared to buying separate products to do each job, but we haven't always been impressed with the results. However, the past year has been a great one for inkjet MFPs in particular, and we tested several excellent models that have easily matched the results we'd expect from single-function devices.

In our January 2007 *Labs*, no fewer than four of the nine MFPs we tested won awards. Though expensive, HP's OfficeJet 6310 impressed us with its speed and versatility for office users, while Canon's PIXMA MP600 produced great creative results. At the budget end of the scale, Lexmark's X5470 was the cheapest fax-capable MFP we'd ever tested.

Falling prices during the year meant that the entry-level competition had become even more intense by our August 2007 *Labs*, so we decided to concentrate on budget devices. Only £18 separated the cheapest and most expensive of the nine products in our review, but the range of quality was vast. Canon's PIXMA MP510 was the priciest MFP in the test, but at £73 it was still very affordable. Its price has since dropped by £10, making it a steal.

At first glance, the MP510 looks like the mid-range PIXMA inkjet printers on which it's based, which is no bad thing. A flip-up panel on the right carries a 1.9in screen, and below is a wide range of controls. There's no fax or automatic document feeder (ADF), but you

can print directly from a memory card, or from a mobile device with an IrDA infrared port.

Like many other PIXMA devices, the MP510 has two paper inputs, so you can leave plain paper in the lower one and fill the other with special media such as headed or photo papers. This PIXMA model doesn't have automatic duplex (double-sided) printing, but the driver will guide you through doing it manually.

With pigmented black ink, the MP510 produces superb, dark text on plain paper. It does it quickly, too, reaching almost 10ppm in draft mode and a shade under 7ppm on our formal letter test. It's also quick to print in colour, and we were impressed with the crisp, detailed photos it delivered. Although the scanner isn't quite as sharp, it's very fast and has a great interface.

The MP510 is quick, smart and flexible, and produces great all-round results. With large, affordable ink cartridges it's also very economical to run. It seems that MFPs have finally come of age and, after such an exciting year, it takes a great product to stand out. The fact that the MP510 does shows just how good it is.

INKJET MFP Four-colour inkjet, 4,800x1,200dpi print resolution, 1,200x2,400dpi scan resolution, USB Hi-Speed, PictBridge USB and IrDA infrared interfaces **PART CODE** 1450B008AA **LATEST PRICE** £63 inc VAT from www.dabs.com **DETAILS** www.canon.co.uk **FULL REVIEW** Aug 2007

EXPERT'S REPORT

Every year, we review over 100 printers, scanners and multifunction peripherals (MFPs). We print more than 130 test pages on each printer, and capture scores of megabytes of images with a typical scanner. On an MFP we do both, and throw in some photocopies and faxes for good measure.

Our tests show how a product compares to the competition and how much printers cost to run. Even so, with hundreds of stored print and scan samples, selecting the very best can take time.

As always, we let good value guide us to the four overall product winners you see on this page. If you're after an inkjet printer, mono or colour laser printer or an MFP, we're confident that these offer the most for your money.

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LEXMARK E250dn

These days you can buy a cheap mono laser for less than £50, but it's likely to be slow and basic. In July's *Labs*, we decided to see whether it was worth spending more on a printer for the home. Lexmark's E250dn was the most affordable model we tested, and it proved remarkably good value.

It's smart and easy to set up, even if you use its network port. There are PCL and PostScript print languages, and the duplex prints on both sides of paper – a great money-saver. Output quality is good and the E250dn was quicker in our tests than printers costing much more. Its print costs are higher than many competitors', but for anyone other than very heavy-duty users, it's a bargain.



MONO LASER PRINTER 600dpi resolution, USB Hi-Speed and 10/100 Ethernet interfaces **PART CODE** 0033S0315 **LATEST PRICE** £152 from www.morecomputers.co.uk **DETAILS** www.lexmark.co.uk **FULL REVIEW** Jul 2007



EPSON Stylus Photo R265

We wouldn't normally expect an entry-level printer to produce top-quality results, so the Stylus Photo R265 was a pleasant surprise. Though it costs only £47, the R265 prints better photos than some printers costing twice as much.

The six inks help to explain the high quality of its output; photos have a professional, consistent finish with natural contrast levels. Subtle details are reproduced from both the darkest and lightest regions of photos.

There are few frills elsewhere: there's a PictBridge port, but you'll need to spend more if you want memory card slots and a colour screen. The R265 doesn't excel at plain-paper printing, but if you just want to print great photos then it's a superb buy.



SIX-COLOUR INKJET 5,760x1,440dpi resolution, USB Hi-Speed and PictBridge USB interfaces **PART CODE** C11C653021 **LATEST PRICE** £47 from <http://uk.insight.com> **DETAILS** www.epson.co.uk **FULL REVIEW** Jun 2007



DELL Colour Laser Printer 3110cn

Dell's 3110cn is an outstanding budget colour laser. Though it costs less than £400, it has a network port, supports PCL and PostScript print languages and can hold 400 sheets of paper. It prints mono pages at a breakneck 27.5ppm and graphics-rich colour pages at an impressive 10.4ppm. Print quality is decent, too, especially if you stick to the PostScript driver.

Price and performance are half the story: upgradability and low running costs are also vital. The 3110cn has both, with affordable black and colour print costs and sensibly priced paper handling, memory and warranty upgrades. For workgroup colour printing, it's a real winner.



COLOUR LASER PRINTER 600x600dpi resolution, 30ppm mono/17ppm colour maximum speed, parallel, USB Hi-Speed and 10/100 Ethernet interfaces **PART CODE** 3110cn **LATEST PRICE** £387 inc VAT from www.dell.co.uk **DETAILS** www.dell.co.uk **FULL REVIEW** May 2007

LEXMARK X4550

★★★★★

£60 inc VAT

This month sees yet another new Lexmark inkjet MFP with wireless printing built in, but for only £60. Build quality is sturdy with the exception of the flimsy extendable output tray, which tends to shed pages instead of holding them securely. A 2½in LCD screen displays the printer's status and lets you control copying and direct printing from memory cards.

Even at draft quality, documents had dark, solid characters with only a few rough edges. At normal quality, our mono text prints took only 30 seconds longer than those in the draft test. Characters were blacker, but slight imperfections on individual characters were more obvious. However, the quality was generally good, and speeds were impressive.

The X4550 was much slower in our mixed colour print test, and took just over 26 minutes to print our 25-page colour document. Colours were accurate, but we noticed banding on large

blocks of dark colour. Ink was slow to dry on standard 80gsm paper, and we noticed some bleeding between large areas of colour. The greyscale prints it produced were usable, but suffered from visible graining and banding.

Photos were vibrant and sharp. Some white backgrounds had a very faint yellow tint, but this effect wasn't severe enough to ruin flesh tones.

Contrast was excellent, with vivid colours and deep blacks. Most of our colour photos came out well, but we noticed graining on light areas and pale skin in some of our pictures. Although the driver is easy to use, it didn't always accept our settings when we changed the paper size and enabled borderless printing.

Scans were detailed, without visible grain or banding. However, the maximum resolution of 600x1,200dpi is low compared to similarly priced MFPs such as HP's Photosmart 2575. Our low-resolution document scans



were sharp and had accurate colours but when we scanned photos, skin tones appeared pale.

Mono A4 copies are produced in just 17 seconds, but while text is still legible, coloured titles and images suffer from graining, striping and inconsistent colour intensity. Colour copies were surprisingly slow, taking one minute and 30 seconds. They were better than the mono copies, although large blocks of colour were too pale.

The X4550 is economical to run if you buy high-yield ink cartridges, costing just 3p per colour page. It's also capable of printing high-quality text documents quickly. It can also print directly from various memory card formats and digital cameras with PictBridge. We're also fans of its ability to print wirelessly, particularly as the X4550 costs no more than non-wireless MFPs with similar specifications. Lexmark's X4550 is a good choice for home or home office use, but it's let down by slow colour print times and a scanner that's better suited to documents than photographs.

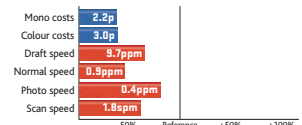
Kat Orphanides

SUMMARY

- ✓ Fast, economical text printing
- ✓ Easy-to-configure wireless printing
- ✗ Slow colour printing

COLOUR INKJET MFP 4,800x1,200 print resolution, 26ppm mono/18ppm colour maximum speed, 600x1,200dpi scan resolution, USB Hi-Speed, PictBridge USB, 802.11g Wi-Fi interfaces
PART CODE 001410602
SUPPLIER www.laskys.com
DETAILS www.lexmark.co.uk

PERFORMANCE (see page 62)



BROTHER HL-4040CN

★★★★★

£306 inc VAT

Brother's compact HL-4040CN is a single-pass colour laser printer with a 300MHz processor, 64MB of RAM and both USB Hi-Speed and 10/100 Ethernet ports. It has a two-line LCD screen, and eight buttons that allow you to control the printer and navigate through various menus. A direct printing port means you can print PDF, TIFF, and JPEG files directly from a USB flash drive with the same options that are available when you print from a PC. A web-based management tool is included to control network printing and a custom driver supports PCL6 emulation.

The printer was simple to set up. Four toner cartridges slotted into the preinstalled drum unit, and the sturdy removable paper tray was easy to load. Both network and USB drivers installed without a problem.

The HL-4040CN's paper tray can hold 250 sheets of standard copier paper. It also has a multipurpose tray, which can take specialist paper up to 163gsm. There's

no draft mode, so we performed both our draft and normal print speed tests at the printer's 'normal' quality setting, which did well both for speed and quality.

Our mono text print test produced clear, crisp letter-quality text at normal settings. At fine quality, text is slightly darker and better defined. We were impressed by the quality of images printed in mono mode, which were sharp and had smooth shading. However, we encountered problems when we tried to print greyscale images in colour or auto modes. Our high-resolution greyscale test photo acquired a red cast, while our greyscale shading tests came out in several rainbow tints when we printed them as part of a mixed colour document.

The printer performed better with blocks of solid colour, producing dense, sharp prints. Colour prints of photos showed slight horizontal banding, but colours were largely accurate, although some had a faint yellow cast



which made flesh tones look slightly jaundiced. There's a 'vivid' colour setting available, but this oversaturates images, leaving them with an unnatural appearance.

Toner cartridges for the HL-4040CN are available in standard and high capacities, and the printer is economical to run if you buy the larger size. Unfortunately, this economy doesn't apply to some of the other consumables. An £86 belt unit must be replaced every 50,000 pages, while a £112 drum unit lasts for only 17,000 pages. This is less than half the life of drum units for the Konica Minolta 2400W (*Labs, Shopper* May 2007), which last for around 45,000 pages.

The HL-4040CN would be a good choice as a networked printer in a small office, although the cost of consumables other than toner is expensive. It's well suited to fast text printing and is capable of producing good results on mixed-colour documents, as long as they don't include complex greyscale images.

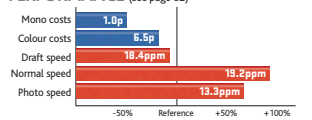
Kat Orphanides

SUMMARY

- ✓ Fast text and mixed colour printing
- ✓ Economical print costs
- ✗ Flawed greyscale images

COLOUR LASER PRINTER 2,400x600dpi, 20ppm mono, 20ppm colour, USB Hi-Speed and 10/100 Ethernet interfaces
PART CODE HL-4040CNZU1
SUPPLIER www.dabs.com
DETAILS www.brother.co.uk

PERFORMANCE (see page 62)



HP Photosmart A626

★★★★

£131 inc VAT

HP's Photosmart A626 is an incredibly small portable photo printer that can print both 6x4in and 7x5in photos. As well as connecting to your PC via USB, it can print directly via PictBridge and a variety of memory card formats, including CompactFlash, SD, xD and Memory Stick. However, its highest 4,800x1,200dpi resolution is available only when you're printing from a PC.

The A626 was extremely simple to set up. Paper simply slots into its rear tray, and it uses a single tricolour ink cartridge. Each photo value pack will print 120 photos at a cost of 10p per picture. This is cheaper than Canon's Selphy ES1 (reviewed in *What's New, Shopper* April 2007). The cartridge has cyan, magenta and yellow inks so blacks are created by combining the three inks.

On the top is a large 4.8in touch screen, which allows you to display and edit images and configure the printer. The editing mode is limited, but simple to use. You can't make

major alterations to your pictures, but you can crop your pictures, remove red-eye and add captions, clip art and simple line drawings using a stylus and onscreen keyboard. Changes are stored as a separate graphical layer that can be easily removed if you change your mind. An onscreen preview allows you to view the contents of your memory card individually or as groups of thumbnails, and you can also print a contact sheet.

When our photos had just come out of the printer, dark colours in particular looked faded and patchy, but dried into perfectly consistent

colour after about two minutes. Colour prints were vivid and bright, and we were pleased with the detailed shading in our black-and-white photos. Flesh tones were realistic, and light areas showed no unwanted colour tints, but brown and yellow areas were slightly too intense in some of our photos. Once our prints had dried, black areas were clear and well defined, although they looked slightly grey in comparison to



photos printed by Canon's iP4500 in this month's inkjet printers *Labs* on page 94.

For the ultimate in portability you can buy an optional battery so you can print photos without mains power. This makes it ideal for events such as holidays and parties, or any occasion when you want to be able to take a digital photo and immediately see the results printed out. HP also sells an adaptor that allows you to print photos wirelessly via Bluetooth, which is particularly useful if you use a camera-phone.

Like many printers without a dedicated black ink, dark tones aren't as vivid as we'd have liked. Print quality was good, although not quite up to that of some of the best A4 inkjet printers in this month's *Labs*. The main advantage of the Photosmart A626 is that it's simple to use, quick to set up and makes photo printing a stress-free experience. However, unless you really need the portability, there are less expensive printers that create higher-quality photos.

Kat Orphanides

SUMMARY

- ✓ Very portable
- ✓ Low cost per print
- ✗ Quality lags behind A4 inkjets

COMPACT PHOTO PRINTER
4,800x1,200dpi maximum resolution, USB Hi-Speed and PictBridge USB interfaces
PART CODE Q8541A#BEH
SUPPLIER www.lambda-tek.com/componentshop/
DETAILS www.hp.co.uk

PERFORMANCE (see page 62)

Photo speed 0.70ppm

KYOCERA MITA FS-920

★★★★

£137 inc VAT

Kyocera's FS-920 is a compact, sturdy and affordable mono laser printer that takes up only slightly more space than an inkjet. It has both USB Hi-Speed and parallel ports, so it'll work with both new and legacy systems. It has a 266MHz processor and 32MB of RAM, which can be upgraded to a maximum of 288MB. A single, large input tray can hold up to 250 sheets of A4 paper. Printed pages are ejected on top of the printer and an extendable clip pulls out to hold up to 100 pages.

The FS-920 comes with a toner cartridge that will last for around 3,000 pages. You can buy replacements containing enough toner for 2,000 or 6,000 pages. High-yield cartridges are better value for money and we've used this to calculate page costs.

Fitting the drum and starter toner was a hassle-free experience, but when the printer is first switched on you have to wait 15 minutes while it puts toner in its developer reservoir. Fortunately, this process

occurs only once and is not repeated during future drum changes.

Installing the drivers was complicated and required us to select which model of printer we wanted to install and which set of drivers we wanted to use. The recommended Windows driver provides full support for the PCL 6 and PostScript 3 page description languages, and there's support for the FS-920 under both Mac OS X and Linux. However, if you're using Windows Vista, you'll have to download a specific driver from Kyocera's website.

Print speeds were around 17ppm at all quality settings. This is a touch slow considering that Samsung's ML-2510 costs £58 and can manage over 22ppm. Draft prints were readable but noticeably pale. Printing them consumed less toner than higher-quality modes. Both proof and high-quality print modes produced dark, clear text. Although there wasn't much to differentiate between them, proof quality produced more consistent prints. High-



quality prints were prone to some smudging and fuzziness around bold characters.

The FS-920 wasn't very successful as a greyscale image printer. Large dark areas were covered with pale flecks, while lighter areas were grainy and speckled. Some images suffered from horizontal or vertical striping and banding, and shaded areas were banded and poorly graduated.

Unlike most laser printers, there are no hidden costs in running the FS-920. The drum, developer and fuser are all guaranteed for three years or 100,000 pages, and toner is the only consumable. While this low-cost durability is an advantage, most home and home office users are unlikely to print enough pages to appreciate the economic advantages of this printer. If you want to use the printer over a network, an optional Ethernet adaptor is available for £88.

The problem with this printer is that it sits between Lexmark's E250dn, which has faster print speeds and a network port, and Samsung's ML-2510, which is cheaper and faster but lacks a network port. Therefore, we can't recommend it.

Kat Orphanides

SUMMARY

- ✓ Affordable to buy
- ✓ Economical to run
- ✗ Unimpressive quality

HOME/SMALL OFFICE MONO LASER
1,800x600dpi, 18ppm mono, parallel and USB Hi-Speed interfaces
PART CODE N/a
SUPPLIER www.ameiva.co.uk
DETAILS www.kyoceramita.co.uk

PERFORMANCE (see page 62)

Mono costs 1.1p
Draft speed 16.5ppm
Normal speed 17.1ppm